

WHAT IS CLAIMED IS:

1. A flexible toothbrush comprising:
 - a. a handle member;
 - b. neck member pivotally connected to the handle member and movable between at least first and second positions relative thereto;
 - c. a biasing member cooperatively engaged to the handle member and the neck member and operative to normally bias the neck member to the first position;
 - d. the biasing member being configured such that the application of pressure to the neck portion beyond a prescribed threshold facilitates movement of the neck portion from the first position to the second position.
2. The flexible neck toothbrush of claim 1 wherein said biasing member is a leaf spring.
3. The flexible neck toothbrush of claim 2 wherein said leaf spring defines a first end, second end and spring body wherein said first end is bonded to said neck member and said spring body engages the handle member to provide biasing resistance to said neck member.
4. The flexible neck toothbrush of claim 1 wherein said biasing member is a coil spring;
5. The flexible neck toothbrush of claim 1 wherein said handle member and said neck member are substantially aligned when the neck is in the first position;
6. The flexible neck toothbrush of claim 1 wherein said neck member is angularly offset relative to the handle member at an angle in the range from 1 degree to 45 degrees when in the second position.
7. The flexible neck toothbrush of claim 1 wherein said neck member includes a dental brush;
8. The flexible neck toothbrush of claim 1 wherein said neck member defines a distal end and a proximal end, said distal end including a dental brush and said proximal end including a pivotal connection to said handle member;
9. The flexible neck toothbrush of claim 7 wherein said prescribed threshold pressure is the pressure upon the dental brush that causes deflection of the biasing member.

10. The flexible neck toothbrush of claim 8 wherein said prescribed threshold pressure is the pressure upon the dental brush that causes deflection of the biasing member.

11. The flexible neck toothbrush of claim 3 wherein said handle member defines a distal end and a proximal end, said distal end including a pivotal connection to said neck member.

12. The flexible neck toothbrush of claim 11 wherein said distal end of said handle member includes an open cavity for receiving the second end of said leaf spring, and to provide an inner surface to engage the leaf spring body.

13. The flexible neck toothbrush of claim 12 wherein movement of the neck member about the pivotal connection translates to movement of the leaf spring within the cavity.

14. The flexible neck toothbrush of claim 12 further comprising a protective sheath operatively configured to envelope the distal end of said handle member and the first end of said leaf spring bonded to said neck member.

15. The flexible neck toothbrush of claim 12 wherein said cavity is at least partially filled with a rheostatic fluid.

16. The flexible neck toothbrush of claim 12 wherein said cavity incorporates a rheostatic sponge.

17. The flexible neck toothbrush of claim 3 further comprising an adjustable member for engaging the leaf spring at various points along the length of the spring body to provide the variable threshold pressure.

18. An ergonomic toothbrush having a flexible neck and adaptively designed handle to prevent tooth abrasion and gum damage comprising:

a. a handle member defining a distal end and a proximal end, said distal end including an open cavity defining an interior surface;

b. a neck member defining a distal end and a proximal end, said distal end including a dental brush and said proximal end pivotally connected to the distal end of the handle member and said neck member movable between a first position wherein the handle member and neck member are substantially aligned and a second position angularly offset relative to the handle;

c. a leaf spring defining a first end, second end and spring body; said first end bonded to said neck member, wherein movement of the neck member about the pivotal connection translates movement of the spring body within the cavity of the handle member; said spring body adapted to engage the interior surface to provide biasing resistance;

wherein said leaf spring is operative to normally bias the neck member to the first position and is configured such that the application of pressure to the neck portion beyond a prescribed threshold facilitates movement of the neck portion from the first position to the second position.

19. The flexible neck toothbrush of claim 18 wherein said neck member is angularly offset relative to the handle member at an angle in the range from 1 degree to 45 degrees when in the second position.

20. The flexible neck toothbrush of claim 18 wherein said prescribed threshold pressure is the pressure upon the dental brush that causes deflection of the biasing member.

21. The flexible neck toothbrush of claim 18 further comprising an adjustable member for engaging the leaf spring at various points along the length of the spring body to provide the variable threshold pressure.

22. The flexible neck toothbrush of claim 18 wherein said cavity is at least partially filled with a rheostatic fluid.

23. The flexible neck toothbrush of claim 18 wherein said cavity incorporates a rheostatic sponge.

24. An ergonomic toothbrush having a flexible neck and adaptively designed handle to prevent tooth abrasion and gum damage comprising:

- a. a handle member;
- b. a neck member pivotally connected handle member, said neck member movable between a first position wherein the handle member and neck member are substantially aligned and a second position angularly offset relative to the handle;
- c. a leaf spring defining a first end, second end and spring body; said first end bonded to said neck member, said spring body configured to engage the handle member to provide biasing resistance;

wherein said leaf spring is operative to normally bias the neck member to the first position and is configured such that the application of pressure to the neck portion beyond a prescribed threshold facilitates movement of the neck portion from the first position to the second position.

25. The flexible neck toothbrush of claim 24 wherein said neck member is angularly offset relative to the handle member at an angle in the range from 1 degree to 45 degrees when in the second position.

26. The flexible neck toothbrush of claim 24 wherein said neck member includes a dental brush;

27. The flexible neck toothbrush of claim 24 wherein said neck member defines a distal end and a proximal end, said distal end including a dental brush and said proximal end including a pivotal connection to said handle member;

28. The flexible neck toothbrush of claim 25 wherein said prescribed threshold pressure is the pressure upon the dental brush that causes deflection of the leaf spring;

29. The flexible neck toothbrush of claim 26 wherein said prescribed threshold pressure is the pressure upon the dental brush that causes deflection of the leaf spring.

30. The flexible neck toothbrush of claim 24 wherein said handle member defines a distal end and a proximal end, said distal end including a pivotal connection to said neck member.

31. The flexible neck toothbrush of claim 29 wherein said distal end of said handle member includes an open cavity for receiving the second end of said leaf spring, and to provide an inner surface to engage the leaf spring body.

32. The flexible neck toothbrush of claim 31 wherein movement of the neck member about the pivotal connection translates to movement of the leaf spring within the cavity.

33. The flexible neck toothbrush of claim 31 further comprising a protective sheath operatively configured to envelope the distal end of said handle member and the first end of said leaf spring bonded to said neck member.

34. The flexible neck toothbrush of claim 31 wherein said cavity is at least partially filled with a rheostatic fluid.

35. The flexible neck toothbrush of claim 31 wherein said cavity incorporates a rheostatic sponge.

36. The flexible neck toothbrush of claim 24 further comprising an adjustable member for engaging the leaf spring at various points along the length of the spring body to provide the variable threshold pressure.

37. A flexible toothbrush comprising;

a. a handle member;

b. neck member pivotally connected to the handle member and movable between at least first and second positions relative thereto;

c. a biasing member formed into said handle member to engage the neck member and operative to provide a biasing force against the neck member to the first position;

d. the biasing member being configured such that the application of pressure to the neck portion beyond a prescribed threshold facilitates movement of the neck portion from the first position to the second position.

38. The flexible neck toothbrush of claim 37 wherein said handle member and said neck member are substantially aligned when the neck is in the first position;

39. The flexible neck toothbrush of claim 37 wherein said neck member is angularly offset relative to the handle member at an angle in the range from 1 degree to 45 degrees when in the second position.

40. The flexible neck toothbrush of claim 37 wherein said neck member includes a dental brush;

41. The flexible neck toothbrush of claim 37 wherein said neck member defines a distal end, a neck body and a proximal end, said distal end including a dental brush and said neck body including a pivotal connection to said handle member;

42. The flexible neck toothbrush of claim 40 wherein said prescribed threshold pressure is the pressure upon the dental brush that causes deflection of the biasing member;

43. The flexible neck toothbrush of claim 37 wherein said handle member defines a distal end and a proximal end, said distal end including a pivotal connection to said neck member.

44. The flexible neck toothbrush of claim 43 wherein said distal end of said handle member includes an open cavity for receiving the proximal end of said neck member.

45. The flexible neck toothbrush of claim 44 wherein movement of the neck member about the pivotal connection translates to movement of the leaf proximal end of the neck member within the cavity.

46. The flexible neck toothbrush of claim 45 further comprising a protective sheath operatively configured to envelope the distal end of said handle member and the first end of said leaf spring bonded to said neck member.

47. The flexible neck toothbrush of claim 44 wherein said cavity is at least partially filled with a rheostatic fluid.

48. The flexible neck toothbrush of claim 44 wherein said cavity incorporates a rheostatic sponge.